

— FACTS —

FIGURES AND REASONS

— ABOUT —

THE NEW “ALPHA” AND OTHER

— DE LAVAL —

CREAM SEPARATORS.

PRICES, STYLES AND CAPACITIES.

(POWER SIZES.)

— 1894. —



The De Laval Cream Separators well sustained their prestige at the recent World's Columbian Exposition, Chicago, demonstrated their uniform superiority, and received the only award—Medal and Diploma—made to Cream Separators by the regular Committee of Judges.



— **WHEREIN** —

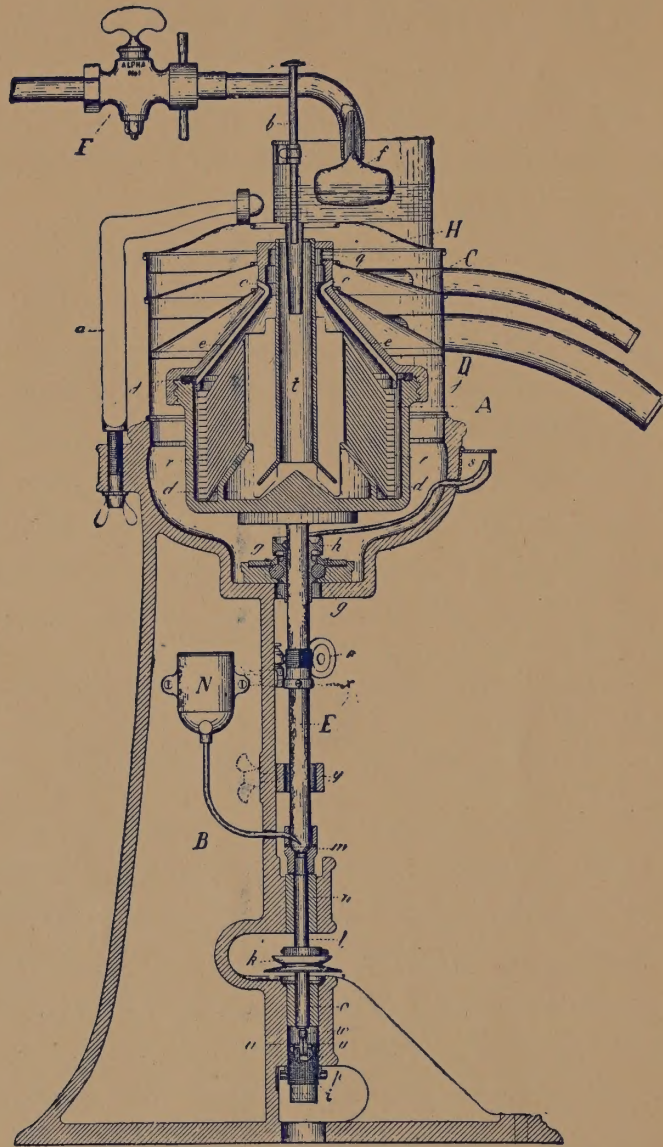
The “Alpha” De Laval Excels
ALL OTHER
CREAM SEPARATORS.

1. *Its separation is the most thorough.*
 2. *Its cream possesses greater “churnability.”*
 3. *Its actual capacity is the greatest.*
 4. *It requires much the least power.*
 5. *Its absolute safety is unquestionable.*
 6. *It involves no risks of patent litigation.*
 7. *It separates at a lower temperature.*
 8. *It requires no special foundation.*
 9. *It is absolutely non-affectible in its efficiency.*
 10. *It may be operated to equal advantage by all.*
 11. *Its cream is smoothest and most uniform.*
 12. *It handles all conditions of milk with equal efficiency.*
 13. *It leaves nothing to the “judgment” of the operator.*
 14. *Its consistency of cream is the most easily controlled.*
 15. *Its requisite speed is one-third less.*
 16. *It is most easily and completely cleaned.*
 17. *It is the most simple and most durable.*
 18. *It makes a longer continuous separation.*
 19. *It removes more filth and fibrous matter.*
 20. *Its bowl is not too cumbersome to handle.*
 21. *Its very largest bowl is of less diameter than other machines of one-third the capacity.*
 22. *It costs least in proportion to actual capacity.*
 23. *It fulfills the representations made for it.*
 24. *Its merit is proved, not experimental.*
 25. *It does everything that any other machine can do, and enough more to earn its cost each year of use.*
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IT IS SOLD SUBJECT TO THE GUARANTEE OF ITS SUPERIORITY IN
EVERY MATERIAL RESPECT OVER ANY OTHER MACHINE MADE

SECTIONAL VIEW

—OF AN—



(BELT-POWER)

“ALPHA” STYLE DE LAVAL
CREAM SEPARATOR.

THE DE LAVAL POWER CREAM SEPARATORS.

The purpose of the Cream Separator is the expeditious and complete separation of cream from milk in the most practical manner possible.

The De Laval machines are thoroughly tried and proven. They were the first to be introduced. They have made the fight in behalf of centrifugal separation. They have established its prestige and superiority to any and all other systems. They have placed the Cream Separator where it is to-day. They have been the key-stone in the revolution of dairying interests, and are universally conceded to have done more for these interests than any other agency. They have made the creamery and factory system what it is at this time. They are known and generally used in every civilized country in the world. They are as familiar in any country of Europe or Australia as in America. The number in use exceeds 60,000, or more than five times the number of all other makes combined. Their use and prestige and conceded superiority is world-wide.

Their makers have invented, devised and developed nearly every essential feature ever utilized in separator construction. Their money and experience has originated and perfected these improvements. The extent and value of their plants and organizations to-day exceed those of all others ten times over. The present De Laval machines embody in their principles of construction and finish the acme of development and perfection of these various agencies.

The most recent and most important step forward in separator construction has been what is known as the "*Alpha*" improvement, which is now used in all the later styles of De Laval machines. Previous to this the separator bowl (the steel cylinder in which the separation takes place) was of the construction now termed "plain" or "hollow," or in other words contained only set flanges for keeping the milk in circulation and tubes for its discharge, the centrifugal force being applied to the milk in essentially a solid body. The "*Alpha*"

improvement consists mainly of a system of inclined discs or plates used in the bowl, which form a series of sections or compartments by means of which the milk is divided into thin layers and thus subjected to the centrifugal force, instead of in a solid bulk. As a result, the separation is made absolutely complete, the capacity is tripled, the "churnability" of the cream is greatly enhanced, the requisite power reduced one-half, the essential speed reduced one-third, and the *reserve* capability left so great that uniform efficiency is not affected by varying conditions of milk or the handling of the operator.

In consequence, the benefits thus derived have demonstrated the "Alpha" improvement to be as great an advancement over the older style of separator bowl as was the introduction of the Cream Separator in the first place over gravity setting, and it has been demonstrated over and over again that the various savings of the "Alpha" machine are sufficient to earn its cost each year of use over and above the best that is possible with any other machine or system.

While essentially the first to come into general use, the De Laval machines have never been without would-be competition. Their success has been attained only in the face of such competition, and their continued prestige and supremacy has only been maintained under constant antagonism from competition of various sorts. Their success and present position in the market is due to merit, and merit only. The competition, in the way of centrifugal separators, has of course come from imitators and infringers. Most of these have practically gone out of use. This is true of all the older ones. Newer ones spring up from time to time. Most of them reach the experimental stage only. Others are now on the market, with a small sale in some localities.

Nearly every make of such machine will be found to have some adherents. Most of these are users of separators for the first time, or else have no familiarity with other machines, aside from those of older make and smaller capacity, and certainly no acquaintance with the "Alpha." Naturally all sorts of representations are made for all of these machines. Each, as stated, has users who are pleased with it. Almost any modern make of separator, well and durably built mechanically, will prove pleasing to one who is using a separator for the first time, or whose previous experience has been with a machine of older style and smaller capacity. A man, for instance, doing 10% or 20% better than he did before with gravity setting, or separating a larger amount with as good work as with an older and smaller capacity machine, is naturally pleased, *and does not always stop to consider that he might do yet another 5% or 10% better still.*

However, those who have been users of separators for a number of years, who are now users of a considerable number of them, and who keep careful records of the work of their different machines and systematic account of all the details of their creamery business and

results, are almost without exception users of the "Alpha" machines, and there are hundreds of them who have cast aside various other machines for what they could get for them, in many cases at complete loss, and replaced them with the "Alpha."

The same considerations which brought about the use of the older De Laval and other separators, as compared with the various gravity setting systems, *must eventually result in the practically universal use of the "Alpha,"* as compared with all other makes of separators, since the "Alpha" has in nearly every respect the same degree of advantage over such other forms of machines as had the separators in the first place over the gravity systems, and it is no longer a question of gain merely, but of the *greatest possible gain*, and not of a *better* product merely, but of the *best possible product*.

The "Alpha" machines are not only guaranteed to be as represented, to fulfill the claims made for them, and to give satisfaction to those who may purchase them, but are further guaranteed to be superior in every material respect to any and all other separators and systems, and—without waiving any Patent Right prerogative—the "Alpha" will be placed side by side with any other machine, in the hands of any reputable and responsible party, and the question of superiority thus left to the machines themselves.

This has of course been done many times during the past two years, and in many different ways, and under many conditions, but in no single instance, nor under any circumstances, has the "Alpha" ever failed to demonstrate its greater merit and to fulfill the representations of superiority made for it.

This catalogue is devoted exclusively to the Power sizes of De Laval separators for creamery and factory use. There are six sizes shown of the "Alpha" machines—three Belt-Power and three Steam-Turbine, and two of the older or "plain" bowl De Laval machines termed the "Standard"—one Belt-Power and one Steam-Turbine. The smaller dairy or "Baby" De Laval Hand machines are catalogued separately, and are now of three sizes.

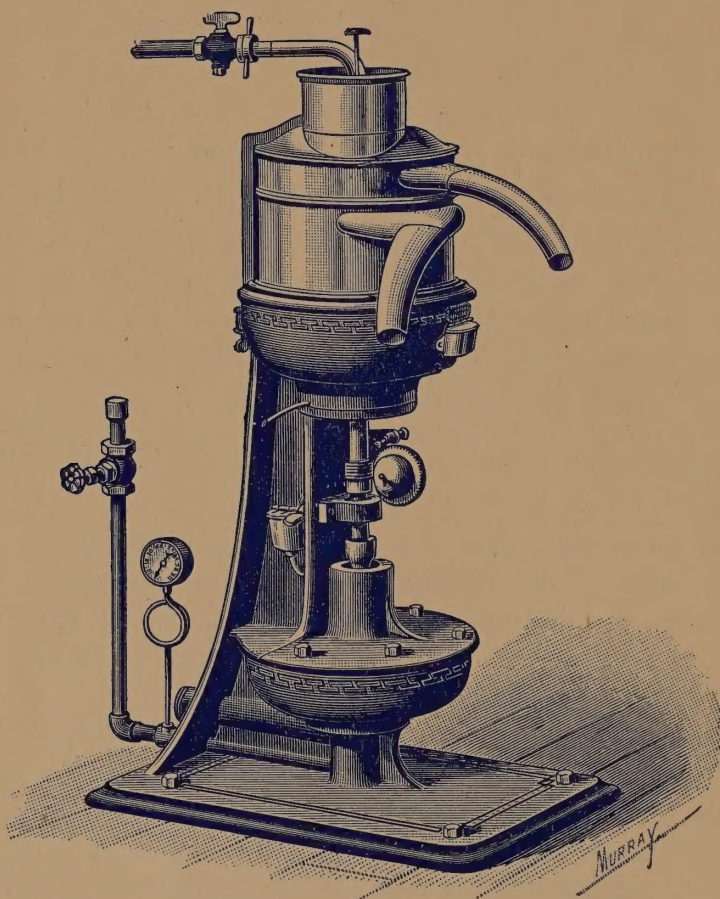
The prices of the De Laval Machines are net at list, terms are cash, and all machines are f. o. b. cars at the Company's General Works, Poughkeepsie, N. Y., or the Branch Stores, Elgin, Ill.

Orders may be placed through, or any desired information may be obtained of, any of the various Agents and Dealers representing and handling the De Laval machines, or directly of the Company.

The De Laval Separator Co.

(See full address on back of Cover.)

THE
"ALPHA" ACME
STEAM-TURBINE SEPARATOR.

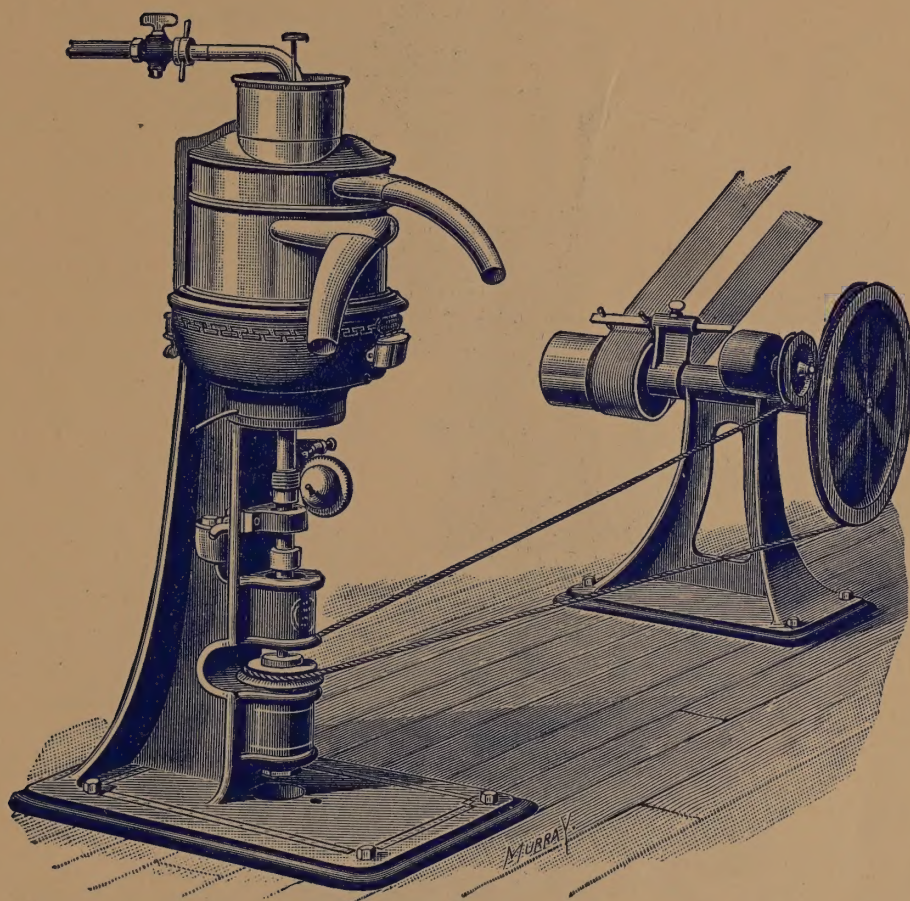


Actual Capacity, 1,300 lbs. per hour.

Price, \$400.00

The Turbine Separator is operated by direct steam-piping connection with the boiler. The "Acme" is the simplest, most accessible, lightest running, and most easily handled, of any Turbine Separator made.

THE
"ALPHA" ACME
BELT-POWER SEPARATOR.



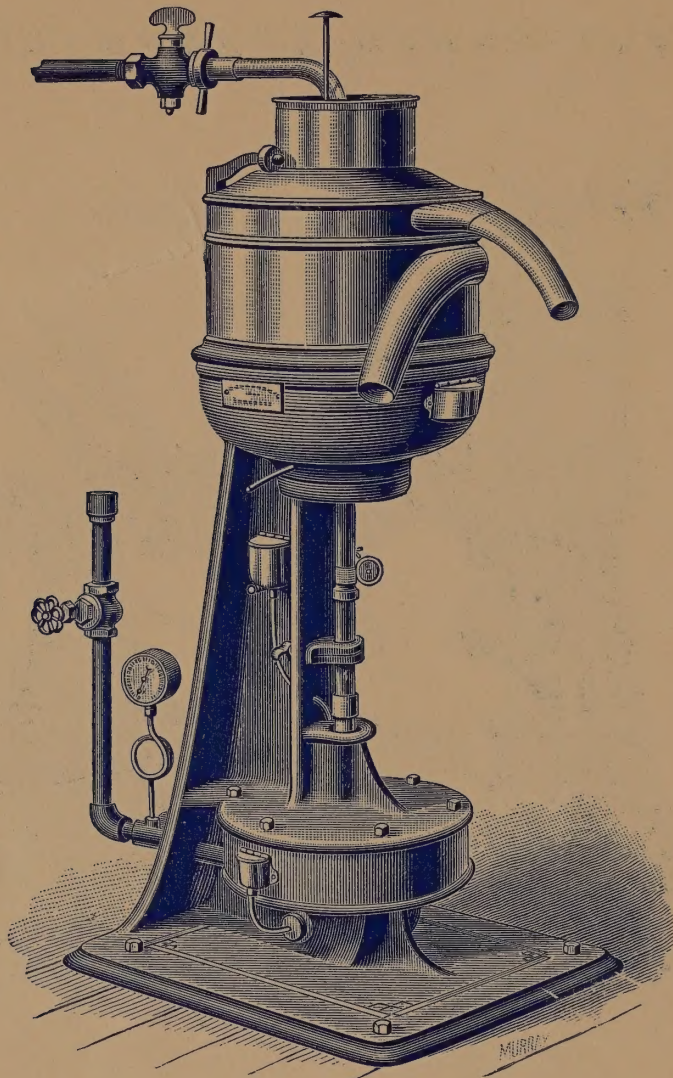
Actual Capacity, 1,300 lbs. per hour.

Price, \$350.00

The "Acme" is much the smallest, lightest, and most compact, of any
Power Separator made, requiring but a half-horse power,
and being capable of operation by any kind
of small power.

"ALPHA" NO. 1

STEAM-TURBINE SEPARATOR.



Actual Capacity, 2,000 lbs. per hour.

Price, \$525.00

THE "ALPHA" NO. 2

STEAM-TURBINE SEPARATOR.

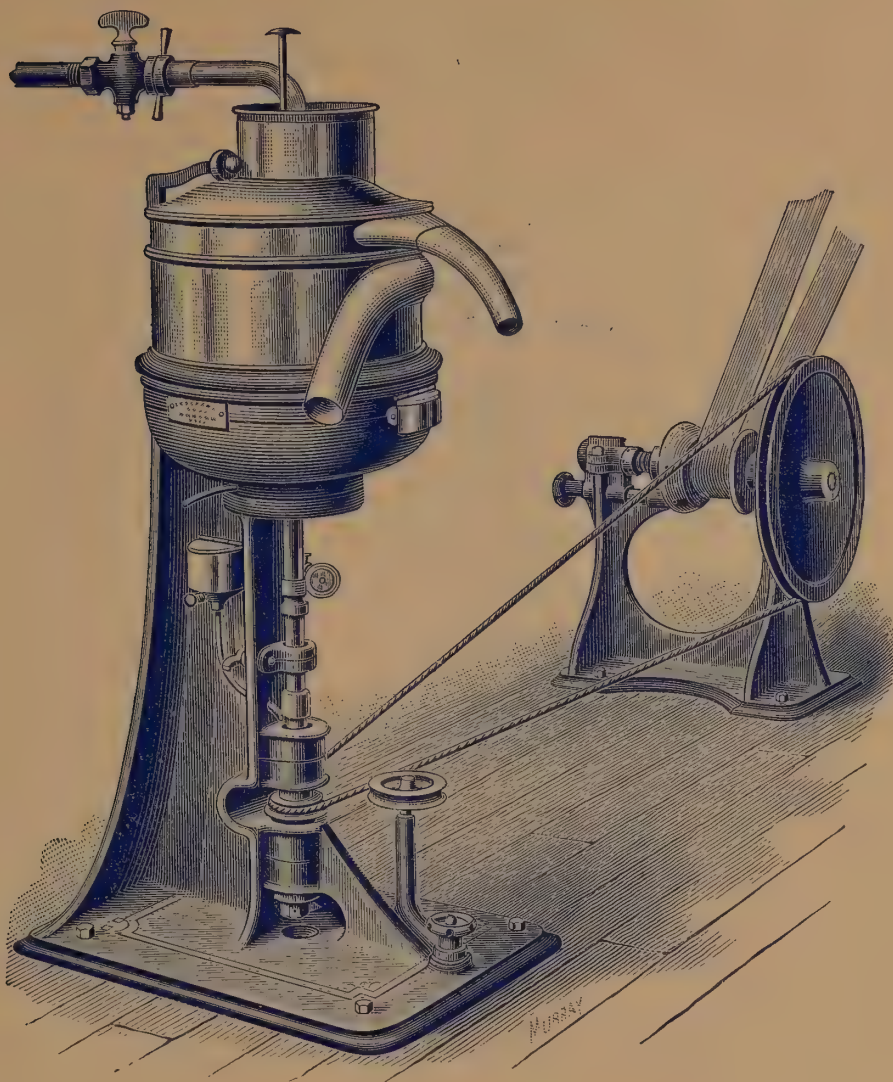
Capacity, 3,600 lbs. - - - - - Price, \$800.00

Can also be supplied when wanted.

The "Alpha" No. 2 is practically the same as the No. 1, except in capacity, and in being built a little heavier.

"ALPHA" NO. 1.

BELT-POWER SEPARATOR.



Actual Capacity, 2,000 lbs. per hour.

Price, \$500.00



THE "ALPHA" NO. 2 BELT-POWER SEPARATOR.

Capacity, 3,600 lbs. - - - - - Price, \$750.00

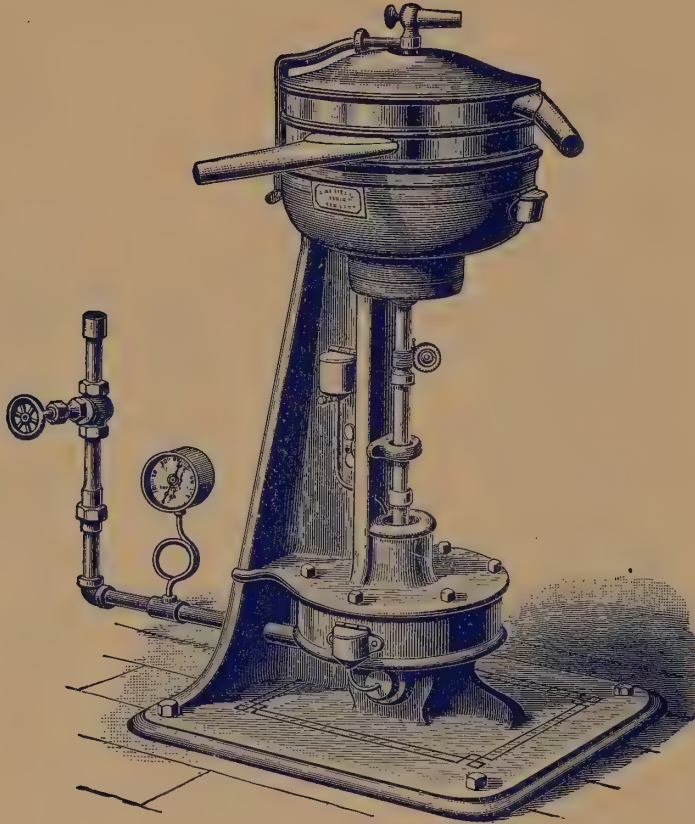
Can also be supplied when wanted.

The "Alpha" No. 1, by reason of its medium capacity, is deemed the most practical Separator for average Creamery use.

"STANDARD"

("Plain" or "hollow" bowl type)

STEAM-TURBINE SEPARATOR.



Capacity, 1,100 lbs. to 1,300 lbs. per hour.

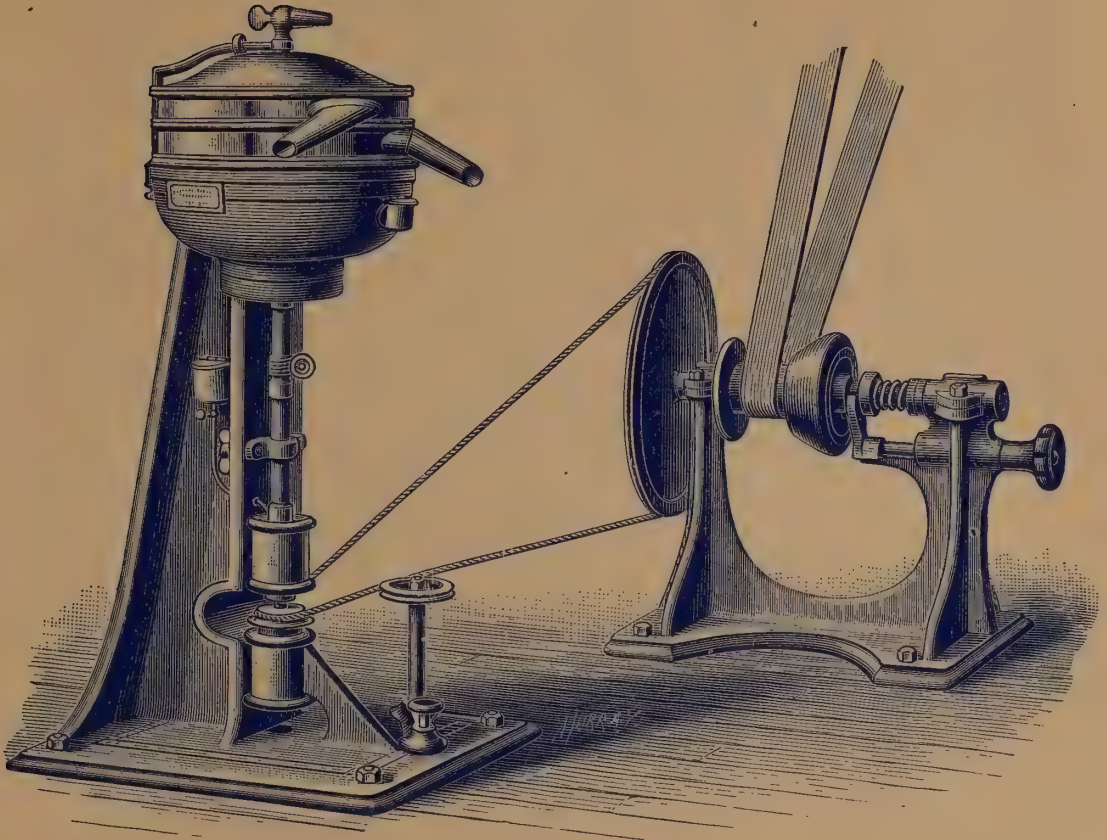
Price, \$375.00

The merit of the "Standard" De Laval machines has long since been established and appreciated wherever Separators have been used. They are second only to the new "Alpha" and superior, as always, to every other make of machine.

"STANDARD"

("Plain" or "hollow" bowl type)

BELT-POWER SEPARATOR.



Capacity, 1,100 lbs. to 1,300 lbs. per hour.

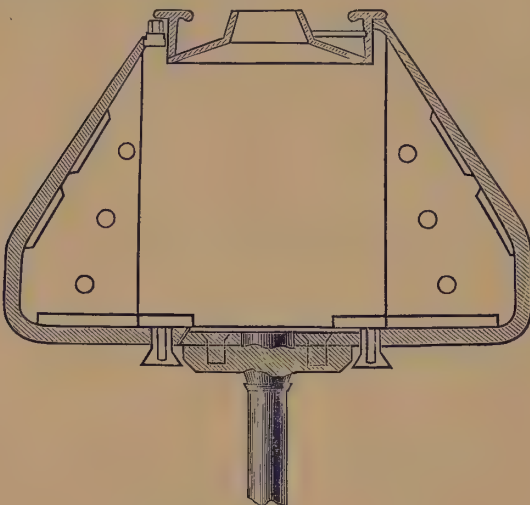
Price, \$325.00

The number of "Standard" De Laval machines in use is several times that of all other makes combined, while the number of Medals and Prizes they have taken exceeds the entire out-put (excepting only the "Alpha" and Danish-Weston) of any other make of machine.

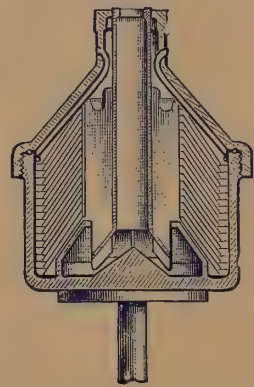
Wherein the "Alpha" is Superior to other Separators.

The "Alpha" system is not and cannot be used in any other machine. However close would-be competitors might have come to the merits of the older forms of De Laval machines, the "Alpha" device of itself places a wide barrier of superiority in every material respect between the present De Laval machines and all other forms of Cream Separator.

The "Alpha" invention, as explained, consists principally of a system of discs or plates used in the separating bowl, which form a series of inclined sections or compartments by means of which the milk is divided into layers and thus subjected to the centrifugal force generated by the revolving speed of the bowl, instead of being treated in a solid bulk, as in other machines. Or in other words, each of these divisions or sections becomes, in a sense, a complete and distinct separating factor in itself, making of the whole a combination and concentration of from 40 to 60 contributory separating agencies into a single bowl, instead of leaving the separation to the unassisted action of centrifugal force alone in a single "hollow" or "plain" vessel, as was formerly the method of the De Laval machines, and is now the method of other machines.



("Hollow" bowl.)



("Alpha" bowl.)

This essential difference in the construction of the bowls is illustrated by the cuts herewith shown, these being representative types of both "Alpha" and "plain" or "open" bowls, and will serve to make clearer the points dwelt upon under different headings in the following explanations. The proportion of the two cuts serves to fairly show the differences in the two types of bowls of a similar capacity.

Thoroughness of Separation.—The first principle, of course, in a Cream Separator is that of separation. It must be scientifically clear to anyone that the division and treatment of the milk in layers or thin sheets makes certain a more thorough separation than is possible when treated in a solid bulk, and there can be no doubt of this being so under any circumstances. It is not only true under the most favorable conditions for both types of bowls, but much more so under conditions that are not just what they would be if especially chosen for test work. Any “plain” or “hollow” bowl is easily affectible in the relative thoroughness of its work by varying conditions of milk,—resulting from temperature, time of cow in lactation, feed of cow, age of milk, etc.,—thickness of cream being run, and the care and judgment of the operator. All of these conditions require variations in the speed and capacity of “hollow” bowl machines to conform to them, and in some respects cannot be met at all. The “Alpha” has the reserve capability to offset all these changes, and in consequence suffers little or no effect from them. Under conditions most favorable to “hollow” bowl machines the saving in thoroughness of separation of the “Alpha” over and above what is possible with such machines is from one-tenth to three-tenths of a per cent. Under the ordinary conditions of average use the difference is fully one-tenth to two-tenths of a per cent. greater still, and sometimes even more.

These “tenths” may seem of little moment, but when it is considered that they are based upon an average of 4 per cent. of fat altogether in the milk, or in other words, that each tenth of a per cent. averages just one-fortieth, or $2\frac{1}{2}$ per cent., of the whole butter fat, it is easy to estimate the magnitude of the saving, and easy to figure what it means to each user of a separator. The saving of one-tenth of a per cent. in the making of 1,000 lbs. of butter is 25 lbs. A saving of five-tenths is 125 lbs. At 25 cts. per lb. this is \$6.25 to \$31.25. In the making of 10,000 lbs. of butter it is \$62.50 to \$312.50. It counts up very fast, though many users do not stop to think of it.

“Churnability” of Cream.—While with the use of the Separators, increasing attention has been given to the thoroughness of the separation, but little has been thought of the condition of the cream, and few have “followed” it, so to speak, from the separation to the butter-milk, little comprehending that they were often sustaining even greater losses in the *churning* than in the *skimming*. With the advent of the modern acid tests, however, they have come to appreciate this waste and to understand that there is such a thing as “*churnability*” of cream. It is likewise found, that while the maturing or ripening of the cream and the manner of the churning have much to do with its “churnability,” there is still much due to the work of the Separator, and that there is a material difference in the “churnability” of the cream from different Separators. In other

words, the practical utility of the Separator does not stop with the separation, however thorough, since it is equally as important to get *all the butter out of the cream* as all the cream out of the milk. This variation in the “churnability” of cream from different Separators is the natural result of the difference in treatment it has undergone in the process of separation and, particularly, in the manner of its discharge from the Separator bowl. The nearer the cream is held to the centre of motion in the Separator bowl, the less and more uniform the time it is retained therein, and, more especially, the nearer to the centre the actual point of delivery is, the more uniform will be its texture and the less concussion and turbulence it will have sustained. If the position of the cream wall or space in the bowl be such that some of the cream forming same must remain in the bowl longer than the rest, or that it must follow a circumlocutory route to reach the point of delivery, it will have undergone different degrees of separation or force. And, as the centrifugal force multiplies very rapidly as the centre of motion is departed from, if the point of actual delivery be not very near thereto, the cream is discharged into the receiving receptacle with such force as to cause a sufficient concussion to result in a partial and varied degree of “churning” of some of the cream. Hence there are *different conditions* of cream delivered from the machine, which do not admit of *equal* ripening and maturing, and having in consequence different “churnability,” some collecting or gathering into butter sooner than the rest, so that part must be over-churned in order to secure all, or else much must be left to go to waste. Moreover, the parts of the cream which have been most “churned” in the delivery from the bowl, or are what is termed “lumpy,” “frothed” or “cut,” will not in the after churning disintegrate and become a part of the homogeneous mass but, while they will adhere to it, will have remained incompletely churned, resulting in what is known as “white specks” in the butter. In the De Laval machines, particularly the “Alpha,” the cream is held much nearer the centre, is retained in the bowl a shorter and more uniform time, and is discharged from much nearer the centre than in any other machine—the diameter of the bowls of the “Alpha” 2,000 lbs., and 3,600 lbs. machines being but $9\frac{1}{4}$ in., or the periphery but $4\frac{5}{8}$ in. from the centre in the widest part, and the point of delivery within but a little over an inch of the exact centre. In most other Separators of recent make, everything has been sacrificed to secure capacity, compelling the placing of the cream outlet even further from the centre than in the older machines, or else they have been so made as to cause interference with and consequent disturbance of the cream wall itself. In most of these machines the actual cream delivery is as far from the centre as is the extreme periphery of the largest “Alpha” bowl. In the “Alpha” the capacity is obtained in a radically different manner than in any other machine, so that while even greater capacity is attained, the

point of delivery is at the same time brought almost to the exact centre. Then, in addition, the close work of the "Alpha" system of discs takes from the milk a much greater amount of the fibrous matters present in all milk, particularly when from cows old in lactation, and which matters would otherwise go into the cream, and materially retard and impair the gathering of the smaller globules of fat into butter.

Temperature.—This is another point in Separator use receiving growing attention, and becoming an important feature. The "hollow" bowl machines require a temperature of upwards of 80 degrees to secure the relative thoroughness of separation possible with them, as sufficient centrifugal force is not obtained to effect the disintegration of the smaller fat globules unless assisted by a high degree of temperature. The attempt to run at a lower temperature with such bowls will not only impair thoroughness of work but as well clog the tubes and outlets of same. The use of the "Alpha" has demonstrated that temperature does not make an essential difference in the thoroughness of its separation, and some users are now running as low as 58 degrees, and many under 70 degrees. Or in other words, the temperature may be from 10 to 30 degrees lower than is practicable and feasible in other machines. The advantages are manifest. In warm seasons of the year milk coming into the creamery may be put through the "Alpha" without the trouble, expense and delay of warming, which would be necessary with other machines. Then, when heating is needed at all, it is almost impossible to keep the temperature within even 85 or 90 degrees at all times, and a higher temperature than this materially affects the qualities of butter, and especially is this true in cold seasons when the milk has been at a very low temperature before being heated.

Quality of Product.—While the "Alpha" cannot of course make a perfect butter unless all other conditions are favorable, it contributes very materially thereto in so far as its work is comparable with that of other machines, as any butter-maker will appreciate on understanding what is said regarding "Churnability of Cream" and "Temperature." The removal of all of the fibrous matters, as well as a greater degree of the filth and feculent matters, which the closeness of the "Alpha" discs accomplishes, and the greater portion of which would otherwise go into the butter, cannot of course but make a considerable difference in its quality. Then, the heating of the milk, which is to a great extent obviated with the "Alpha," effects even a greater difference, as when this temperature exceeds 90 degrees at any time, or 80 degrees when milk has been very cold previous to heating, it cannot but exert a marked influence in the grain, texture, solidity, flavor, and keeping qualities of the butter, particularly if not intended for immediate consumption.

Capacity.—Capacity in a Separator means time, saving of operating expense, wear of machinery and the general benefit to all concerned

resulting from the getting through with the work of the day as quickly as possible. It permits of the milk being separated while in the best possible condition for a thorough separation, and does away with the need of letting it stand around for several hours improperly cared for, thus undergoing changes affecting both the separation and the quality of the product. It permits, too, of the skimmed milk being ready for the patrons while perfectly fresh and sweet, and without their having to wait for it. The "Alpha" has greater actual capacity than any other machine, and its capacity is likewise greater in proportion to price. The capacities of the "Alpha" machines are their capacities under the conditions of actual ordinary use. The claimed capacities of other machines are based upon the most favorable conditions of milk from cows fresh in lactation, high temperature, the running of a thin cream, and the employment of the highest attainable speed. Hence these claims are not only deceptive, but the user, in attempting to utilize this capacity, imperils even the degree of thoroughness of separation possible with such machines, and the capacity of them at one time with a certain condition of milk is not their capacity a few months later with milk from the same cows, and only constant watching and the judgment of an expert can really determine what is the proper capacity for them. As an instance of misrepresentation in this respect, it may be said that there is a certain separator offered on the market to-day claiming to skim 4,000 lbs. per hour, which will in reality only handle some 1,400 lbs. per hour with even a fair degree of thoroughness.

Power.—Every one understands how much of an item operating power amounts to in the running of any piece of machinery, both in first cost and maintenance, and the Separator is far from being an exception. The "Alpha" requires much less power than the older De Laval machines, and only one-fifth to one-tenth of the *actual* amount used by other machines, of anywhere near the proportionate capacities. The reasons for this are: (1) all the De Laval machines are built as light, simple and compact in every part as possible, and other makes of bowls of similar capacity are much heavier and more cumbersome in design and construction; (2) the necessary speed for the "Alpha" is nearly one-third less than in all other modern machines, being but from 5,400 to 6,000, as against 7,500 to 9,000 in other machines; (3) the diameter of the bowl in the "Alpha" is much less, the extreme diameter of the largest "Alpha" bowl being considerably less than that of any other machine of even one-third the capacity, and the weight in consequence is brought so much nearer to the centre of rotation than in any other machine that the volume of resisting force is very materially lessened.

Cleaning.—The "Alpha" is the most easily, simply and completely cleanable of any Separator of anywhere near similar capacity. The bowl is easily taken apart, and the discs are easily and simply

handled and completely cleaned. Every point of the whole bowl is easily accessible. All other bowls of the stationary fixture or "hollow" type have wings, flanges, tubes and cavities which cannot be reached, nor seen, nor thoroughly cleaned, regardless of the time that may be devoted to it, and even aside from these points, the "Alpha" machine is more easily, quickly, and completely cleanable than any other of its capacity.

Adjustability.—In point of thoroughness of separation, the "Alpha" is absolutely non-adjustable, inasmuch as nothing need be left to the *judgment* of the operator, while in all other machines the speed, feed, and skimmed-milk outlet must be adjusted to conform to each other, to insure clean work with different conditions of milk. At the same time the "Alpha" is the most easily controlled of any machine in point of thickness or consistency of the cream, to affect which in other machines either the speed must be materially increased, or the capacity decreased,—or *vice versa*. This involves, aside from the inconvenience and the difficulty in getting at *just* what is wanted, the various objections touched upon under "churnability" of cream. In the "Alpha" all the adjusting—the scope of which is greater than in any other machine—is done by the mere turning in or out of the simple cream screw, at pleasure. This gives cream of *any* desired consistency, from the lightest to the heaviest, without changing either speed or capacity in the slightest degree or affecting the texture of the cream, which properly handled from the "Alpha" is as smooth and free from froth as any hand-skimmed cream could be.

Construction and Utility.—The mechanical construction of the "Alpha" machines is the acme of the experience and facilities of its makers in the building of Separators, and the result of years of work, the expenditure of thousands of dollars, and the attainment of an enormous plant devoted solely to the purpose. Every feature of the construction is based upon the test of actual experience. It may be understood that this is of no small consideration in determining the durability of a machine of the high speed of the Separator. The machines are simple and durable in every part, and in case of possible accident or eventual wear, each part is easily and cheaply replaceable. This, moreover, can be done by the operator, without subjection to long delay, or the sending of some portion of it to a distant factory for re-fitting, as is necessary with other more cumbersome and less practicably designed machines. The "Alpha" machines are as well much more compactly constructed as to size than others of anywhere near equal capacity. They require no special foundation, and can be easily and quickly set anywhere. They take little room, and occupy but a small part of the space that would be needed with other machines to secure the same capacity. They are perfectly simple in operation, and may be run by anyone with ordinary common-sense, though the operator may never before have seen a Separator of any kind.

Safety.—It must of course be appreciated that a machine making from 6,000 to 8,000 revolutions per minute as does a Separator, is not a thing to trifle with, and that such a machine cannot be built on the same principles or in the same indifferent manner as a churn or a butter-worker. This is especially true of the steel separating bowl, which is the vital feature of the Separator in this respect. The building of the De Laval machines is the result of many years' of experience, and the utilization of the best and most complete plants obtainable for the purpose and devoted to this work alone. The De Laval bowls are made in Sweden of the best of solidly forged material peculiarly adapted to the purpose, and with the assistance of everything that can contribute to perfection in this work. There have been burstings of a great many separators, but in no instance, with more than 60,000 machines in use—many times the number of all others combined—and scattered over every country in the world, has this ever happened to a De Laval machine, nor can it ever happen to one of them. The other makes of separators on the market in this country are comparatively cheaply and defectively constructed, without experience and little acquaintance with necessary requirements. The bowls used are haphazardly contracted for at different places, and are made in this country to save the importing duties and costs of 50%. As a result, there have been bursting accidents with nearly every make of such machines ever introduced, and in many cases with most fatal and serious results.

Patents.—The De Laval Company and the interests associated with it own and control various Patent Rights, including the *foundation process* and many mechanical patents, and covering in their entirety almost every essential and material feature of Cream Separators, and which any machine—excepting those which enjoy the protection of the De Laval controlled rights—must and does infringe in vital features. Suits based upon various of these patents are now pending in the U. S. Courts in several States—New York, Illinois, Wisconsin, Iowa, and others—against makers and users of infringing machines. Some of these suits have been pending for several years. Several of them are expected to come to issue shortly. There can be little question of most of them being upheld, and of serious results ensuing to violators of these rights, the heaviest part of which must fall upon the *user* rather than the seller or maker. However this may be, it is not purposed to here touch upon the subject except in so far as it relates to the “Alpha.” Any purchaser of an “Alpha” machine gets a Separator more thoroughly, broadly and comprehensively covered by indisputable and incontestable Patent Rights, than any other Separator made, and takes no possible risk of costly litigation and consequent damages—which is of itself a consideration of no little importance.

A Few Words from Users.

Space permits of but very little being given under this heading, and it would be futile to attempt the offering of "testimonials" in behalf of the De Laval machines without devoting a hundred pages to the subject. The few statements made are simply used by reason of their representing the judgment and experience of the largest, longest, and best-known users of separators in the world, and those whose names are known from one end of the country to the other for the advancement of their systems, the carefulness of their management, and the excellence of their products,—*those whose use of an implement is of itself incontestable proof of its superior merit.*

(From the largest creamery in the world, with an output exceeding 20,000 lbs. per day.)

FRANKLIN COUNTY CREAMERY ASSOCIATION, St. Albans, Vt., Jan. 8, 1894.

"Only after seeing the practical workings of the different kinds of separators on all kinds of milk, and after testing each as to its actual capacity and thoroughness of separation, are we willing to express any opinion of their relative merits. We have used during the last three years sixty separators, representing seven styles of manufacture, and the results of many carefully made comparisons satisfy us that the 'Alpha' is the best."

T. M. DEAL, Manager.

GEO. H. CLAFLIN, Chemist.

(One of the oldest creamery concerns in the West, and among the first to use separators.)

Cedar Rapids, Iowa, Jan. 2, 1894.

"We have used various different makes and patterns of separators, including the 'Alpha' the past two years. We consider the 'Alpha' by far the best machine used; 1st, because it skims perfectly clean at any temperature from 65 deg. up to 100 deg.; 2d, because the cream is of better quality than that produced with any other machine; 3d, because the capacity is greater, and more easily maintained."

J. R. MORIN COMPANY.

(From the largest "Fancy Gilt Edge" butter producing concern in the country.)

Owego, Tioga County, N. Y., Jan. 20, 1894.

"We are using thirty De Laval separators in fourteen of our different creameries and find them the most perfect separator we have in use, seldom leaving even a trace of fats in the skim milk. We much prefer the 'Alpha' to the 'solid bowl' machine, as we think the cream is superior, and that we get finer goods from it. We have no hesitancy in saying that we think the 'Alpha' is as near perfection as it is possible to get a cream separator."

STANDARD BUTTER CO.

(From the largest user of separators in the West and the first to adopt the "Alpha" on a large scale where it meant the throwing aside of various other machines.)

ELGIN CREAMERY Co., Elgin, Ill., Feb. 1, 1894.

"We are using 45 'Alpha' separators and shall probably increase the number to 50 or more the coming season. Three years ago we were using other machines and made very thorough and careful tests of all the leading separators before making a change which involved so large an expense. Careful tests in the daily operation of the various separators, covering a period of about three months, developed a condition of the facts which we could not get away from, and demonstrated that we could not afford to use any of the other machines which we tested. The difference in our annual income by the use of the 'Alpha' we clearly demonstrated would be from \$25,000 to \$35,000 per annum, in excess of that which we could obtain by the use of any other of the machines tested."

O. SANDS, President.

(One of Pennsylvania's oldest creamerymen.)

Prescott, Lebanon Co., Pa., Jan. 9, 1894.

"I am fully satisfied that I can skim more milk and take more butter out per 100 lbs. of milk with the 'Alpha' separators than with any other separator I have ever had, while the expense of running is very much less than with the others. My 'Alpha' Turbine in the Prescott creamery has run 5,000 to 8,000 lbs. of milk daily, and I have not spent one cent for repairs in sixteen months, while with several other machines that I have used my expense for repairs was from \$50 to \$100 per year."

HENRY HAAK.

(From a concern having an annual output of 3,000,000 lbs. of butter.)

Decorah, Ia., Jan. 8, 1894.

"After using the 'Alpha' separators three years and comparing their work with that of other machines we can heartily recommend the 'Alpha' as the best machine on the market."

WM. BEARD & SONS.

(Large New England producers.)

472 Rutherford Ave., Boston, Mass., Jan. 31, 1894.

"We feel a little disappointed that in these hard times a discount cannot be made us on another of the 'Alpha' machines, same capacity as we have purchased before. We shall be obliged however to order one as we feel that it is the best machine on the market. We want to put it in place of one of another make, and must have it shipped at once."

DAVID WHITING & SONS.

(From a concern operating fifteen Wisconsin factories.)

MCCANNA & FRASER COMPANY, Burlington, Wis., Jan. 9, 1894.

"Our 'Alpha' separators do their work satisfactorily and well, giving a smooth cream and a splendid yield. It is our intention to change the balance of our other machines for the 'Alpha.'"

C. B. MCCANNA, Pres't.

(From the largest combination, milk, cream and butter house in the world.)

C. BRIGHAM & Co., 386 Tremont St., Boston, Mass., Dec. 28, 1893.

"The 'Alpha' has proved to us more than is claimed for it. It has exceeded its capacity, and is the closest skimmer, and will do the most work without clogging of any machine we have ever used. We cheerfully recommend it to all."

A. W. ANDREWS, Supt.

(One of New York's largest concerns.)

Madrid, N. Y., Jan. 6, 1894.

"We have used seven 'Alpha' separators (mostly No. 2) in our creameries during the past season and will add several more to the number within a few months. They will do all claimed for them, which we are aware cannot be said of other makes. We are more than pleased with the 'Alpha' and prefer it to any other separator on the market."

W. R. BOYNTON & Co.

(Large Iowa operators.)

OAKLEAF CREAMERY CO., Waukon, Iowa, Jan. 10, 1894.

"During the past year we were induced to take another make of separator than the 'Alpha' on trial. We tested it most thoroughly but did not buy. We are more than ever convinced that the 'Alpha' is the only separator we want."

G. L. HUBBELL, Secy. and General Mgr.

(The only machines used in the Practical Working Dairy of the Great World's Fair.)

DAIRY BUILDING, World's Fair Grounds, Chicago, October 3, 1893.

"The long breed test is over, and we have no further use for the separators. We have used the three 'Alpha' (Acme Belt-Power) daily for the past four months, and their work has been perfectly satisfactory. The skim-milk has been analyzed daily. The temperature of the milk ranged from 70 deg. to about 85 deg. The tests showed the loss to be less than one-tenth of a per cent. It was a hard test for the machines, as the power was so variable."

WM. H. GILBERT, Supt. Dairy.



The De Laval Cream Separators were the machines selected solely by the committee of Experts and Experiment Station representatives for use in the great International Breed Test and Practical Working Dairy, and their work was most highly commended by all concerned.



—SOLE MANUFACTURERS—

The De Laval Separator Company,

GENERAL OFFICES:

74 CORTLANDT STREET,

Branch Offices and Stores:
ELGIN, ILL.

American Factories:
POUGHKEEPSIE, N. Y.

NEW YORK.